



State of Utah

DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS AND MINING

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January 28, 1993

Mr. Ron Ryan
Environmental Coordinator
SF Phosphates Ltd. Company
9401 North Highway 191
Vernal, Utah 84078-7802

Dear Mr. Ryan:

Re: Reclamation Surety Estimate, SF Phosphates Ltd. Company (SF), Vernal Phosphate Operations, M/047/007, Uintah County, Utah

I have reviewed your January 12, 1993 response to the Division's draft reclamation surety estimate. I appreciate your efforts in modifying the site map to include panel designations, cross hatching, and other "user friendly" features. Please continue to include these features on future map submissions.

I have revised the surety estimate using information provided in your response and additional information generated during our telephone conversation of January 27, 1993. The revised estimate includes a section dealing with final reclamation/decommissioning of the pipeline which was not included in the previous estimate. The pipeline section in the previous estimate was omitted to reflect the completion of surface reclamation of the pipeline corridor. A copy of the revised estimate is enclosed for your review. Please note the shaded items in this revision.

A surety covering three years of future escalation is presented in your response. In the revised estimate I have calculated the surety using three years of escalation and using five years of escalation. The Board of Oil, Gas and Mining has issued a directive for sureties to be based on a five year term, however, the Division will present your three year surety proposal to the Board for approval. The Division estimates the surety amount for three years of escalation to be \$1,973,000 (see enclosure).

In order to present this matter at the February 24, 1993 Board Briefing, the Division will need to receive the Reclamation Contract and Reclamation Surety in a completed form by February 5, 1993. After the reclamation surety has been approved by the Board, the permit transfer can be finalized and the old reclamation surety can be released.

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Mr. Ron Ryan
M/047/007
February 2, 1993

At our last meeting a number of questions regarding the 1985 surety estimate were raised which neither of us could answer. Since that time I have discussed those questions with a member of the Division staff who participated in the production of that surety estimate. What I learned from the discussion and further file review is presented below.

Demolition - The estimate for demolition was prepared by the mine operator. The correspondence titled IX. Bonding received by the Division on April 4, 1984 did contain a list of structures included in the estimate. The figures from the correspondence were updated to current values and used in the Division's November 1985 surety estimate.

Roads - The same correspondence mentioned above contained a description of the roads included in the 1984 estimate prepared by the operator.

Pipeline bridge - The pipeline suspension bridge was included in the list of structures to be demolished in the "IX. Bonding" correspondence, but not specifically listed in the Division's November 1985 estimate.

Pipeline- Details of final reclamation/decommissioning of the pipeline were not included in the November 1985 estimate. The pipeline reclamation included was for reclamation of the surface after the pipeline was installed.

Revised MRP - This line item in the November 1985 estimate refers to a revision in the mining and reclamation plan to account for the expansion east of Highway 191 (US 44).

If you have any questions regarding this letter, please contact me or Wayne Hedberg. If you are unable to meet the submission deadline for the February Board Briefing the next Briefing will be held on March 24, 1993. In order to present an item at the March Briefing the Division would need to receive the appropriate paperwork no later than the end of business on March 4, 1993.

Thank you for your cooperation in completing this permitting action.

Sincerely,



Anthony A. Gallegos
Reclamation Engineer

cc: Denise Dragoo, Fabian, Clendenin
Lowell Braxton, DOGM

RECLAMATION SURETY ESTIMATE

file M47-07A.WQ1

S.F. Phosphates Ltd. Company

M/047/007

Vernal Phosphate Operations

Uintah County, Utah

Prepared by Utah Division of Oil, Gas & Mining

Last Update

01/27/93

-This estimate is based on the Division's draft estimate of 11/6/92

-and the surety information received from SF Phosphates dated 1/12/93

-Shading indicate changes made since the last version

-The Division's Nov. 1985 estimate is also referred to

Panel B

-Current mining disturbance (1992); see map dated 1/7/93

	19 acres	DAYS>acr	\$/HR	\$
supervisor days		12.7	34.26	3,472
contouring D-9 @	1.5 acre/day	12.7	210.44	21,325
topsoil 633-D @	4 acre/day	4.8	225.30	8,561
seed & fert. D-4 @	10 acre/day	1.9	69.79	1,061
seed @ \$185/acre	>	19	185.00	3,515
fertilizer @ 50 lb/acre	>	19	45.00	855
Total				38,788

\$2,041 per acre

Panel C

-Mining disturbance; see map dated 1/7/93

	17 acres	DAYS>acr	\$/HR	\$
supervisor days		11.3	34.26	3,106
contouring D-9 @	1.5 acre/day	11.3	210.44	19,080
topsoil 633-D @	4 acre/day	4.3	225.30	7,660
seed & fert. D-4 @	10 acre/day	1.7	69.79	949
seed @ \$185/acre	>	17	185.00	3,145
fertilizer @ 50 lb/acre	>	17	45.00	765
Total				34,705

\$2,041 per acre

Panel C-MISC.

-Unreclaimed areas in Panel C which provide access & will remain disturbed

-until final reclamation. Does not include SAG Mill & Mine Shop

	101 acres	DAYS>acr	\$/HR	\$
supervisor days		33.7	34.26	9,227
ripping D-9 @	3 acre/day	33.7	210.44	56,679

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seed @ \$185/acre	>	180	185.00	33,300
fertilizer @ 50 lb/acre	>	180	45.00	8,100
Total				<u>367,470</u>
\$2,041 per acre				

SAG Mill & Shop

-SAG Mill (15 acres) & Mine Shop (6.2 acres)

21.2 acres		DAYS>acr	\$/HR	\$
supervisor days		5.3	34.26	1,453
topsoil 633-D @	4 acre/day	5.3	225.30	9,553
seed & fert. D-4 @	10 acre/day	2.1	69.79	1,184
seed @ \$185/acre	>	21	185.00	3,922
fertilizer @ 50 lb/acre	>	21	45.00	<u>954</u>
Total				17,065
\$805 per acre				

Main Office & Mill

-Earthwork in the Main Office & Mill area after final reclamation demolition

-Demolition of facilities is included in the Demolition section

24 acres		DAYS>acr	\$/HR	\$
supervisor days		8.0	34.26	2,193
ripping D-9 @	3 acre/day	8.0	210.44	13,468
seed & fert. D-4 @	10 acre/day	2.4	69.79	1,340
seed @ \$185/acre	>	24	185.00	4,440
fertilizer @ 50 lb/acre	>	24	45.00	<u>1,080</u>
Total				22,521
\$938 per acre				

Unpaved Roads

-Unpaved access roads throughout the mine site; estimated 10 mi x 15 ft

-These roads are not indicated on the 1/7/93 map

18 acres		DAYS>acr	\$/HR	\$
supervisor days		3.6	34.26	987
ripping D-9 @	5 acre/day	3.6	210.44	6,061
seed & fert. D-4 @	10 acre/day	1.8	69.79	1,005
seed @ \$185/acre	>	18	185.00	3,330
fertilizer @ 50 lb/acre	>	18	45.00	<u>810</u>
Total				12,192
\$677 per acre				

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seed & fert. D-4 @	10 acre/day	10.1	69.79	5,639
seed @ \$185/acre	>	101	185.00	18,685
fertilizer @ 50 lb/acre	>	101	45.00	4,545
Total				94,775
\$938 per acre				

Panel D

-See acreage in panel D listed as reclaimed in 1992 on 1/7/93 map
 -SF was not able to fully reclaim all these areas in '92, => ~ 1/2 total area

55 acres		DAYS>acr	\$/HR	\$
5 supervisor days		5.0	34.26	1,370
5 acre contouring D-9	1.5 acre/day	3.3	210.44	5,612
5 acre topsoil 633-D	4 acre/day	1.3	225.30	2,253
seed & fert. D-4 @	10 acre/day	5.5	69.79	3,071
seed @ \$185/acre	>	55	185.00	10,175
fertilizer @ 50 lb/acre	>	55	45.00	2,475
Total				24,956
\$454 per acre				

Panel D-MISC.

-Access to Panel D mining areas to remain until time
 -of final reclamation; see map 1/7/93

25 acres		DAYS>acr	\$/HR	\$
supervisor days		8.3	34.26	2,284
ripping D-9 @	3 acre/day	8.3	210.44	14,029
topsoil 633-D @	4 acre/day	6.3	225.30	11,265
seed & fert. D-4 @	10 acre/day	2.5	69.79	1,396
seed @ \$185/acre	>	25	185.00	4,625
fertilizer @ 50 lb/acre	>	25	45.00	1,125
Total				34,724
\$1,389 per acre				

FUTURE MINING

-The projected disturbance for 3 years of future mining in Panels C & D
 -at 60 acres/year of new disturbance; areas are not shown on 1/7/93 map

180 acres		DAYS>acr	\$/HR	\$
supervisor days		120.0	34.26	32,890
contouring D-9 @	1.5 acre/day	120.0	210.44	202,022
topsoil 633-D @	4 acre/day	45.0	225.30	81,108
seed & fert. D-4 @	10 acre/day	18.0	69.79	10,050

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seed @ \$185/acre	>	180	185.00	33,300
fertilizer @ 50 lb/acre	>	180	45.00	8,100
Total				<u>367,470</u>
\$2,041 per acre				

SAG Mill & Shop

-SAG Mill (15 acres) & Mine Shop (6.2 acres)

21.2 acres		DAYS>acr	\$/HR	\$
supervisor days		5.3	34.26	1,453
topsoil 633-D @	4 acre/day	5.3	225.30	9,553
seed & fert. D-4 @	10 acre/day	2.1	69.79	1,184
seed @ \$185/acre	>	21	185.00	3,922
fertilizer @ 50 lb/acre	>	21	45.00	<u>954</u>
Total				17,065
\$805 per acre				

Main Office & Mill

-Earthwork in the Main Office & Mill area after final reclamation demolition

-Demolition of facilities is included in the Demolition section

24 acres		DAYS>acr	\$/HR	\$
supervisor days		8.0	34.26	2,193
ripping D-9 @	3 acre/day	8.0	210.44	13,468
seed & fert. D-4 @	10 acre/day	2.4	69.79	1,340
seed @ \$185/acre	>	24	185.00	4,440
fertilizer @ 50 lb/acre	>	24	45.00	<u>1,080</u>
Total				22,521
\$938 per acre				

Unpaved Roads

-Unpaved access roads throughout the mine site; estimated 10 mi x 15 ft

-These roads are not indicated on the 1/7/93 map

18 acres		DAYS>acr	\$/HR	\$
supervisor days		3.6	34.26	987
ripping D-9 @	5 acre/day	3.6	210.44	6,061
seed & fert. D-4 @	10 acre/day	1.8	69.79	1,005
seed @ \$185/acre	>	18	185.00	3,330
fertilizer @ 50 lb/acre	>	18	45.00	<u>810</u>
Total				12,192
\$677 per acre				

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Paved Roads

-Paved access roads to & from the main offices; estimated at 2.9 mi x 30 ft

-These roads are not clearly indicated on the 1/7/93 map

	11 acres	DAYS>acr	\$/HR	\$
supervisor days		3.7	34.26	1,005
contouring D-9 @	5 acre/day	2.2	210.44	3,704
ripping D-9 @	3 acre/day	3.7	210.44	6,173
seed & fert. D-4 @	10 acre/day	1.1	69.79	614
seed @ \$185/acre	>	11	185.00	2,035
fertilizer @ 50 lb/acre	>	11	45.00	495
Total				14,026

\$1,275 per acre

Tailings Pond-Misc

-Miscellaneous areas associated with the tailings dam not shown on 1/7/93 map

	43 acres	DAYS>acr	\$/HR	\$
supervisor days		14.3	34.26	3,928
ripping D-9 @	3 acre/day	14.3	210.44	24,130
topsoil 633-D @	4 acre/day	10.8	225.30	19,376
seed & fert. D-4 @	10 acre/day	4.3	69.79	2,401
seed @ \$185/acre	>	43	185.00	7,955
fertilizer @ 50 lb/acre	>	43	45.00	1,935
Total				59,726

\$1,389 per acre

Tailings Pond-Impounded Material

	345 acres	DAYS>acr	\$/HR	\$
supervisor days		34.5	34.26	9,456
discing D-4 @	10 acre/day	34.5	69.79	19,262
seed & fert. D-4 @	10 acre/day	34.5	69.79	19,262
mulcher @	24 acre/day	14.4	280.00	32,200
seed @ \$185/acre	>	345	185.00	63,825
fertilizer @ 50 lb/acre	>	345	45.00	15,525
mulch @ 1 ton/acre	>	345	100.00	34,500
Total				194,030

\$562 per acre

Roads OMIT-This item included in Paved & Unpaved Roads SectionsPipeline

- An estimate of the maximum area re-disturbed due to decommissioning or
- repair of the pipeline at final reclamation

	2.5 acres	DAYS>acr	\$/HR	\$
supervisor for		0.5	34.26	137
contouring D-9 @	5 acre/day	0.5	210.44	842
seed & fert. D-4 @	10 acre/day	0.3	69.79	140
seed @ \$185/acre	>	2.5	185.00	463
fertilizer @ 50 lb/acre	>	2.5	45.00	113
Total				1,693

\$677 per acre

Conveyor w/tunnel OMIT-this item included in Panel C Misc. Section

Access roads D&E OMIT-This item included in Unpaved Roads Section

Demolition costs (IX BONDING)

-This section was amended to the plan in January 1984

-Man or equipment days used here were taken from the Nov. 1985 estimate

	DAYS	\$/HR	\$
supervisors	140.0	34.26	38,371
laborers	851.0	27.86	189,671
welders	150.0	39.85	47,820
crane & operator	75.8	185.20	112,231
D-7 dozer	10.5	136.99	11,507
tractor trailer	151.5	111.25	134,835
front end loader	86.0	73.10	50,293
Total			584,728

Revised MRP August 1984

-This revision was dated August 10, 1984

-The revision was for expansion of mining operations east of Highway 191 (US 44)

-Man or equipment days used here were taken from the Nov. 1985 estimate

	DAYS	\$/HR	\$
supervisors	84.0	34.26	23,023
laborers	425.0	27.86	94,724
welders	40.0	39.85	12,752
crane & operator	25.0	185.20	37,040
D-7 dozer	4.0	136.99	4,384
D-9 dozer	5.0	210.44	8,418
tractor trailer	30.0	111.25	26,700

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front end loader	22.0	73.10	12,866
Total			<u>219,906</u>

Additional mine areas

OMIT-This item included in Future Mining Section

BONDING SUMMARY	ACRE	\$	\$/acre
Panel B	19	38,788	2,041
Panel C	17	34,705	2,041
Panel C-Miscellaneous	101	94,775	938
Panel D	55	24,956	454
Panel D-Miscellaneous	25	34,724	1,389
Future Mining	180	367,470	2,041
SAG Mill & Shop	21.2	17,065	805
Plant Facilities	24	22,521	938
Unpaved Roads	18	12,192	677
Paved Roads	11	14,026	1,275
Tailings Pond - Miscellaneous Areas	43	59,726	1,389
Tailings Pond - Impounded Material	345	194,030	562
Pipeline	2.5	1,693	677
Demolition (IX Bonding)	N/A	584,728	N/A
Revised MRP Aug. 1984	N/A	219,906	N/A
	SUBTOTAL	<u>1,721,305</u>	
Mobilization		6,000	
	SUBTOTAL	<u>1,727,305</u>	
ADD 10% Contingency		172,731	
	SUBTOTAL	<u>1,900,036</u>	

ESCALATION FOR 3 YRS @ 1.27%/YR	73,315
TOTAL IN 1996-\$	\$1,973,350
ROUNDED TOTAL IN 1996-\$	<u>\$1,973,000</u>
AVG. COST/ACRE =	\$2,290

ESCALATION FOR 5 YEARS @ 1.27%/YR	123,756
TOTAL IN 1998-\$	<u>\$2,023,792</u>

ROUNDED TOTAL IN 1998-\$	<u>\$2,024,000</u>	
TOTAL ACREAGE BONDED =	861.7	DIFFERENCE
AVG. COST/ACRE =	\$2,349	\$51,000